

WHAT IS CLAIMED IS:

- 1 1. A currency bill scanning device, comprising:
2 a receptacle for holding currency bills;
3 means for obtaining an identifier for a transaction involving one or more
4 of the currency bills;
5 an image scanner operable to obtain an image of at least one side of a
6 received currency bill and to extract a serial number of the received currency bill from
7 the image; and
8 a processing functionality for creating a data file which links the
9 extracted serial numbers for the currency bills involved in the transaction to the
10 identifier for the transaction to allow for the involved currency bills to be subsequently
11 traced by serial number to that transaction.
- 1 2. The device of claim 1 wherein the image scanner obtains at least a
2 partial image of each currency bill.
- 1 3. The device of claim 2 wherein the partial image is obtained of each side
2 of each currency bill.
- 1 4. The device of claim 1 wherein the image scanner obtains a full image of
2 each currency bill.
- 1 5. The device of claim 4 wherein the full image is obtained of each side of
2 each currency bill.
- 1 6. The device of claim 1 wherein the means for obtaining the identifier
2 comprises a data entry device.
- 1 7. The device of claim 6 wherein the data entry device is a keypad.
- 1 8. The device of claim 6 wherein the data entry device is a card reader.

1 9. The device of claim 6 wherein the data entry device is a biometric
2 scanner.

1 10. The device of claim 1 wherein the data file is an image file which
2 contains an image of the currency bill tagged with the extracted serial number of that
3 currency bill and the identifier of the transaction involving that currency bill.

1 11. The device of claim 1 further including a currency bill denomination
2 functionality.

1 12. The device of claim 11 wherein the denomination functionality is
2 implemented by extracting a bill denomination value from the image.

1 13. The device of claim 1 further including a transport mechanism adapted
2 to transport the currency bills, one at a time, from the input receptacle past the image
3 scanner, to at least one output receptacle.

1 14. The device of claim 13 wherein the currency bills are transported by the
2 transport mechanism with a narrow dimension parallel to a direction of transport.

1 15. The device of claim 13 wherein the at least one output receptacle is a
2 plurality of output receptacles.

1 16. The device of claim 1 further including a controller adapted to control
2 the operation of the device.

1 17. The device of claim 1 further including a memory for storing the serial
2 number and transaction identifier data.

1 18. The device of claim 1 further comprising an interface through which the
2 data file is communicated from the device to a computer.

1 19. The device of claim 1 wherein the image scanner extracts a
2 denomination of the currency bill for storage in the data file.

1 20. The device of claim 1 wherein the image scanner extracts a Federal
2 Reserve Bank number of the currency bill for storage in the data file.

1 21. The device of claim 1 wherein the image scanner extracts a signatory on
2 the currency bill for storage in the data file.

1 22. A currency bill scanning method, comprising:
2 receiving currency bills;
3 obtaining an identifier for a transaction involving one or more of the
4 received currency bills;
5 scanning the currency bills to obtain an image of at least one side of a
6 received currency bill;
7 extracting a serial number of the received currency bill from the image;
8 and
9 creating a data file which links the extracted serial numbers for the
10 currency bills involved in the transaction to the identifier for the transaction to allow
11 for the involved currency bills to be subsequently traced by serial number to that
12 transaction.

1 23. The method of claim 22 wherein scanning obtains at least a partial
2 image of each currency bill.

1 24. The method of claim 23 wherein the partial image is obtained of each
2 side of each currency bill.

1 25. The method of claim 22 wherein scanning obtains a full image of each
2 currency bill.

1 26. The method of claim 25 wherein the full image is obtained of each side
2 of each currency bill.

1 27. The method of claim 22 wherein the data file is an image file which
2 contains an image of the currency bill tagged with the extracted serial number of that
3 currency bill and the identifier of the transaction involving that currency bill.

1 28. The method of claim 22 further including denominating each currency
2 bill.

1 29. The method of claim 28 wherein denominating comprises extracting a
2 bill denomination value from the image.

1 30. The method of claim 22 further including a transporting the currency
2 bills, one at a time, from an input receptacle to at least one output receptacle.

1 31. The method of claim 30 wherein the currency bills are transported with
2 a narrow dimension parallel to a direction of transport.

1 32. The method of claim 30 wherein the at least one output receptacle is a
2 plurality of output receptacles.

1 33. The method of claim 22 further comprising storing the serial number
2 and transaction identifier data.

1 34. The method of claim 22 further comprising externally communicating
2 the data file.

1 35. The method of claim 22 further including extracting a Federal Reserve
2 Bank number of the currency bill for storage in the data file.

1 36. The method of claim 22 further including extracting a signatory on the
2 currency bill for storage in the data file.

1 37. A method for distributing currency bills, comprising:
2 obtaining an identifier for a currency bill distribution transaction;
3 distributing a number of currency bills for that transaction;
4 scanning each distributed currency bill to obtain a currency bill serial
5 number; and
6 linking the serial number(s) for the distributed currency bill(s) to the
7 transaction identifier so as to allow the distributed currency bills to be traced to a
8 certain transaction by their serial number.

1 38. The method of claim 37 wherein the distribution transaction comprises
2 a currency bill withdrawal transaction.

1 39. The method of claim 37 wherein scanning comprises imaging each of
2 the currency bills in the transaction and extracting the currency bill serial number from
3 the currency bill image.

1 40. The method of claim 37 wherein linking comprises forming a data file
2 containing the transaction identifier and serial number(s).

1 41. The method of claim 37 wherein linking comprises forming an image
2 file containing an image of each currency bill for that transaction along with the serial
3 number of those currency bills and the transaction identifier.

1 42. A method for receiving currency bills, comprising:
2 obtaining an identifier for a currency bill reception transaction;
3 receiving a number of currency bills for that transaction;
4 scanning each received currency bill to obtain a currency bill serial
5 number; and
6 linking the serial number(s) for the distributed currency bill(s) to the
7 transaction identifier so as to allow the received currency bills to be traced to a certain
8 transaction by their serial number.

1 43. The method of claim 42 wherein the reception transaction comprises a
2 currency bill deposit transaction.

1 44. The method of claim 42 wherein scanning comprises imaging each of
2 the currency bills in the transaction and extracting the currency bill serial number from
3 the currency bill image.

1 45. The method of claim 42 wherein linking comprises forming a data file
2 containing the transaction identifier and serial number(s).

1 46. The method of claim 42 wherein linking comprises forming an image
2 file containing an image of each currency bill for that transaction along with the serial
3 number of those currency bills and the transaction identifier.

1 47. A device for distributing currency bills, comprising:
2 means for obtaining an identifier for a currency bill distribution
3 transaction;
4 a mechanism for distributing a number of currency bills for that
5 transaction;
6 a scanning device operable to scan each distributed currency bill and
7 obtain a currency bill serial number; and
8 a processing functionality for linking the serial number(s) for the
9 distributed currency bill(s) to the transaction identifier so as to allow the distributed
10 currency bills to be traced to a certain transaction by their serial number.

1 48. The device of claim 47 wherein the distribution transaction comprises a
2 currency bill withdrawal transaction.

1 49. The device of claim 47 wherein the scanning device comprises an
2 imager for obtaining an image each of the currency bills in the transaction and
3 extracting the currency bill serial number from the currency bill image.

1 50. The device of claim 47 wherein processing functionality links by
2 forming a data file containing the transaction identifier and serial number(s).

1 51. The device of claim 47 wherein processing functionality links by forming
2 an image file containing an image of each currency bill for that transaction along with
3 the serial number of those currency bills and the transaction identifier.

1 52. A device for receiving currency bills, comprising:
2 means for obtaining an identifier for a currency bill reception
3 transaction;
4 a mechanism for receiving a number of currency bills for that
5 transaction;
6 a scanning device operable to scan each received currency bill to obtain
7 a currency bill serial number; and
8 a processing functionality for linking the serial number(s) for the
9 distributed currency bill(s) to the transaction identifier so as to allow the received
10 currency bills to be traced to a certain transaction by their serial number.

1 53. The device of claim 52 wherein the reception transaction comprises a
2 currency bill deposit transaction.

1 54. The device of claim 52 wherein the scanning device comprises an
2 imager for obtaining an image of each of the currency bills in the transaction and
3 extracting the currency bill serial number from the currency bill image.

1 55. The device of claim 52 wherein the processing functionality links by
2 forming a data file containing the transaction identifier and serial number(s).

1 56. The device of claim 52 wherein the processing functionality links by
2 forming an image file containing an image of each currency bill for that transaction
3 along with the serial number of those currency bills and the transaction identifier.